REMARKS

The Office Action mailed May 5, 2008 has been received and carefully noted. Claims 1-30 are currently pending in the subject application and are presently under consideration.

Claims 1 and 10 have been amended herein. A listing of claims can be found on pages 2-9.

Favorable reconsideration of the pending claims is respectfully requested in view of the following comments.

I. Rejection of Claims 1-30 Under 35 U.S.C. § 103(a)

Claims 1-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Liu et al., *New Fast Algorithms for the Estimation of Block Motion Vectors*, IEEE Vol. 3, No. 2, April 1993 (Liu), in view of U.S. Patent No. 5,923,376 to Pullen et al. (Pullen). It is respectfully requested that these rejections be withdrawn for at least the following reason. Liu and Pullen, alone or in combination, do not teach or suggest all the claim limitations expressly, impliedly, or obviously. In particular, independent claims 1, 16, 19, 25, 27, and 29 recite a similar limitation:

> determining a set of K candidate blocks $B_1..B_K$, where each block B_i, for i=1 to K, is identified by a pixel in search set S_i and minimizes a first distortion function relative to the target block, the first distortion function based only on a set of two or more pixels from the target block and a set of two or more pixels from block B_i, ***wherein each pixel from the set of two or more pixels from the target block is collinear with all other pixels in the set of two or more pixels from the target block and each pixel from the set of two or more pixels from block B_i is collinear with all other pixels in the set of two or more pixels from block B_i;***
>
> determining which candidate block of the set of K candidate blocks $B_1..B_K$ minimizes a second distortion function relative to the target block;

(emphasis added). Independent claim 10, as amended, recites "determining a first distortion measure based at least on ***all*** pixels of the target block and the first minimum block ... the first minimum block consists of a collinear line of pixels" (emphasis added).

Regarding Liu, subsampling involves the use of pixels in an alternating manner (*See* Liu, Figure 1). In Figure 1, pixels labeled a, b, c, and d are patterned across the block. Based on the "schedule" shown in Figure 2, pixels of one pattern out of a, b, c, and d are used. For example, at location 1, pattern "a" is used, at location 2, pattern "b" is used, *etc.* As pixels of the same label (a, b, c, or d) are not in the same line, **each** pixel from a set of two or more pixels is not **collinear with all** other pixels in the set of two or more pixels. Rather, the pixels would form a block of more than one line. Thus, Liu does not teach or suggest all the aspects of the independent claims.

The Examiner states that while Figures 1 and 2 of Liu depict a 4 to 1 subsampling ratio pattern example, one of ordinary skill in the art could apply an 8 to 1 or 16 to 1 pattern instead. If such other patterns are applied, then "each pixel from the set from the block would be collinear with all other pixels in the set from the block" (*See* Office Action mailed May 5, 2008, pgs. 2-3). The Applicant respectfully disagrees that such patterns would teach or suggest the claim limitations. If the pattern was adjusted to be 8 to 1 or 16 to 1 rather than 4 to 1, the pixels would simply be divided into smaller sizes to accommodate the greater subsampling ratio (*i.e.*, 8 or 16 pixels rather than 4 pixels). However, the "specific alternating manner" (*See* Liu, pg. 149, col. 2) described above would still apply, where only **one** pattern is used for each search area (*See* Liu, Figures 1 and 2). The pixels would therefore not all be collinear. Regarding independent claim 10, the claim has been amended to clarify that **all** pixels of the collinear line of pixels are used in the determination of distortion measure.

With respect to Pullen, Figure 3 involves a decompressor that would apply the "motion vector to a corresponding block in a previous frame buffer to generate a block of video data which corresponds to a block of data in a current frame" (*See* Pullen, col. 11, ll. 24-27). As the block of Figure 3 includes pixels of more than one line (*e.g.*, 4x4 pixel blocks), Pullen also does not teach or suggest **each** pixel from a set of two or more

pixels that are **collinear with all** other pixels in the set of two or more pixels. Instead, a 4x4 pixel block would include pixels from different rows and columns. Therefore, Pullen does not teach or suggest all the aspects of the independent claims.

Any dependent claims not mentioned above are submitted as not being anticipated or obvious, for at least the same reasons given above in support of their base claims.

It should be noted that not all of the assertions made in the Office Action, particularly those with respect to the dependent claims, have been addressed here, in the interest of conciseness. Applicants reserve the right to challenge any of the assertions made in the Office Action by the Examiner, with respect to the relied upon art references and how they would relate to Applicants' claim language, including the right to swear behind or otherwise remove an improper art reference.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,
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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted to the United States Patent and Trademark Office electronically via EFS Web on the date shown below.

Christine Flores — 8/4/08

Christine Flores — Date